first case of recording the data on the recording face and a second case of recording the visible image on the label surface, said switching being performed to alternatively focus on the recording face and the label surface and to further increase the light receiving gain at the label surface during the second case.

Claim 19 (new): The apparatus according to claim 10, further comprising:

an encoder that EFM-modulates data to be recorded on the recording face;

a strategy circuit that applies time axis correction processing to the data provided from the encoder;

a laser driver that drives the light source in accordance with the data supplied from the strategy circuit;

a buffer memory that temporarily stores data for forming an visible image on the label surface; and

a laser irradiation pattern conversion circuit that converts the data stored in the buffer memory into data representing a laser irradiation pattern, and outputs the data converted by the laser irradiation pattern conversion circuit to the laser driver.

Claim 20 (new): An apparatus for recording data and a visible image on an optical disk having at least a substrate surface, a label surface opposite to the substrate surface, a recording face interposed between the substrate surface and the label surface, and a reflection layer disposed under the recording face, the recording face being irradiated by a laser light through the substrate surface to record and reproduce data, the apparatus comprising:

a light source for generating the laser light;

an optical pickup having an objective lens, said objective lens movable in a direction of a thickness of the optical disk within a total movable range and condensing the laser light to form a light spot for irradiating the optical disk;

an actuator for moving the objective lens around a first base point for focusing the light spot onto the recording face and for moving the objective lens around a second base point for focusing the light spot onto the label surface;

a feed means for moving the optical pickup in a radial direction of the optical disk;

a spindle motor for rotationally driving the optical disk; and

a host computer for controlling the recording of the data and the visible image,

wherein the substrate surface of the optical disk faces to the optical pickup when the data is recorded into the recording face,

wherein the label surface of the optical disk faces to the optical pickup when the visible image is recorded into the label surface,

wherein a distance between the objective lens and optical disk is differentiated between a first case of recording the data on the recording face and a second case of recording the visible image on the label surface,

wherein the apparatus further comprises a focus servomechanism, said focus servomechanism including the actuator and for focusing the laser light onto the optical disk by means of the objective lens, such that a gain of the focus servomechanism is switched between the first case of recording the data on the recording face and the second case of recording the visible image on the label surface,

wherein the total movable range of the objective lens is set to be equal to or more than a sum of an allowance range and an additional range, the allowance range including a range set to allow the objective lens to keep a constant distance between the objective lens and the recording face when a level of the optical disk varies in the direction of the thickness, the additional range being set by dividing a distance from the substrate surface to the recording face of the optical disk by an absolute refraction index of the substrate of the optical disk, so that the actuator can switch the objective lens between the first base point and the second base point, and

wherein the laser light is vibrated with a predetermined amplitude in the radial direction of the optical disk at a predetermined cycle of variable cycle while the laser light is applied to a same circumference of the optical disk a plurality of times during the recording of the visible image, so that the laser light is applied to different positions along the same circumference, thereby a density of the visible image formed on the label surface is increased.

Claim 21 (new): The apparatus according to claim 17, further comprising:

an encoder that EFM-modulates data to be recorded on the recording face;

a strategy circuit that applies time axis correction processing to the data provided from the encoder;

a laser driver that drives the light source in accordance with the data supplied from the strategy circuit;

a buffer memory that temporarily stores data for forming an visible image on the label surface; and

a laser irradiation pattern conversion circuit that converts the data stored in the buffer memory into data representing a laser irradiation pattern, and outputs the data converted by the laser irradiation pattern conversion circuit to the laser driver.

Claim 22 (new): An apparatus for recording data and a visible image on an optical disk having at least a substrate surface, a label surface opposite to the substrate surface, a recording face interposed between the substrate surface and the label surface, and a reflection layer disposed under the recording face, the recording face being irradiated by a laser light through the substrate surface to record and reproduce data, the apparatus comprising:

a light source for generating the laser light;

an optical pickup having an objective lens, said objective lens movable in a direction of a thickness of the optical disk within a total movable range and condensing the laser light to form a light spot for irradiating the optical disk;

an actuator for moving the objective lens around a first base point for focusing the light spot onto the recording face and for moving the objective lens around a second base point for focusing the light spot onto the label surface;

a feed means for moving the optical pickup in a radial direction of the optical disk;

a spindle motor for rotationally driving the optical disk; and

a host computer for controlling the recording of the data and the visible image,

wherein the substrate surface of the optical disk faces to the optical pickup when the data is recorded into the recording face,

wherein the label surface of the optical disk faces to the optical pickup when the visible image is recorded into the label surface,

wherein a distance between the optical lens and the optical disk is differentiated between a first case of recording the data on the recording face and a second case of recording the visible image on the label surface,

wherein the host computer checks if the label surface of the optical disk is set to face the optical pickup when the optical disk is set,

wherein the total movable range of the objective lens is set to be equal to or more than a sum of an allowance range and an additional range, the allowance range including a range set to allow the objective lens to keep a constant distance between the objective lens and the recording face when a level of the optical disk varies in the direction of the thickness, the additional range being set by dividing a distance from the substrate surface to the recording face of the optical disk by an absolute refraction index of the substrate of the optical disk, so that the actuator can switch the objective lens between the first base point and the second base point, and

wherein the laser light is vibrated with a predetermined amplitude in the radial direction of the optical disk at a predetermined cycle or variable cycle while the laser light is applied to a same circumference of the optical disk a plurality of times during the recording of the visible image, so that the laser light is applied to different positions along the same circumference, thereby a density of the visible image formed on the label surface is increased.